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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE 80: Maritime navigation and radiocommunication equipment and systems

Project 62252 - Suggested deletion of the requirement for small craft radar to detect SARTs and RACONs

The document below has been drafted by the convenor of IEC TC 80 WG 2a and is circulated at the request of the TC 80 secretary as an informative document. It is related to project 62252 (based on 80/279/NP).

Dear Sirs,

The International Electrotechnical Commission, Technical Committee 80 (IEC TC 80) has put in place a new Working Group 2a (WG 2a) to develop a voluntary radar standard for vessels not required to carry radar according to the International Maritime Organisation (IMO) Safety Of Life At Sea (SOLAS) Chapter V.

It is estimated that there are in excess of 500,000 radars world wide, fitted to recreational craft and small workboats. It is planned to subdivide these craft into two categories to define adequate radar facilities for each group:-

1) Work boats
2) Recreation craft

For small craft up to 150 tons, at which this new standard is aimed, Search and Rescue transponders (SARTs) will only be detected at a limited detection range, far less than those required for SOLAS crafts. This is based on the scanner being usually fitted at a low height above sea level on such craft. In most SAR operations it is to be expected that small craft will be inshore and thus use DSC alerting and not SARTs for SAR services.

Within the next decade many Radar Beacons (RACONs) may be replaced by Automatic Identification System (AIS) transponders or pseudo AIS beacons, generated and broadcast by Vessel Traffic System (VTS) centres. This coupled with GNSS technology advancement will provide the small craft with an accurate knowledge of position and thus reduce the need for RACON position fixing on radar.

From 2003 the International Telecommunications Union (ITU) will require more stringent limits for radar unwanted emissions. As far as is known at this time, these new requirements are unlikely to be fulfilled with today's technology as used in the small craft maritime market. The radar industry has to move to new technologies for transceivers. The choice of these new technologies will be restricted if the requirement to trigger and detect current SARTs and RACONs continues. Current SARTs and RACONs require the use of magnetrons/high power pulse techniques and these are rich in the unwanted emissions that the ITU are attempting to limit.

In Europe, it is planned to establish a harmonised standard to make it possible for the radar manufacturer to make declarations according to the Radio and Telecommunications Terminal Equipment (R&TTE) directive. This will ensure that users are able to install equipment with a specified performance.

National administrations are invited to concur with the IEC proposal that future (post 2003) small craft radar shall not be required to detect SARTs and RACONs. This would allow industry to investigate and start preparations for the new technology needed after 2010, when more stringent ITU unwanted emission limits are planned to come into force for marine radar systems.

By using the experience gained with small craft radar transceivers, industry can be ready with SOLAS class Radar systems that will be required by IMO to meet the planned ITU Radio Regulations and Recommendations.

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